

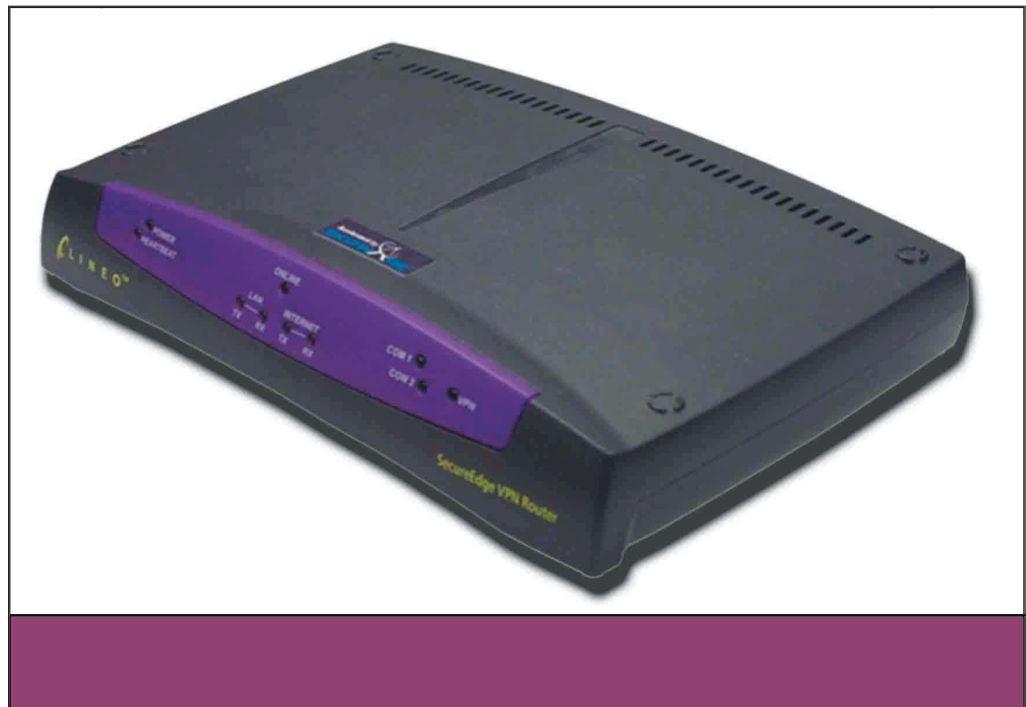


Air Force Research Laboratory | AFRL

Science and Technology for Tomorrow's Aerospace Forces

Success Story

COMMERCIALIZED SPACE COMMUNICATION PROTOCOL ROUTER DEMONSTRATED



Information Directorate researchers recently achieved a milestone in wireless Internet communications with the first commercial installation of the Space Communications Protocol Standards (SCPS) transport gateways over National Aeronautics and Space Administration's (NASA's) Advanced Communications Technology Satellite (ACTS).



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Information
Technology Transfer

Accomplishment

The directorate's Information Connectivity Branch has been substantially involved with the development of the SCPS protocols over the past four years. The SCPS transport gateway offers up to several times the bandwidth utilization efficiency of the well-known Internet protocols, Transmission Control Protocol/Internet Protocol (TCP/IP), over a satellite channel as well as being functionally compatible with existing TCP/IP-based networks.

Ordinary, untuned TCP/IP connections generally make highly inefficient use of bandwidth over noisy channels. When researchers introduce long latencies (i.e., geostationary satellite links), these inefficiencies are even more pronounced. Global Science & Technology, Inc. (GST) is commercially developing this technology and demonstrated the first of a new product line of SCPS-enhanced network appliances.

This demonstration included a side-by-side comparison of GST's SCPS protocol product, known as SkipWare™, against an unenhanced TCP/IP. The demonstration proved conclusively that GST's SkipWare-enhanced device offers superior performance and bandwidth efficiency. The SCPS transport protocol is an enhanced flavor of modern TCP and is completely compatible with existing TCP/IP-based network infrastructure. GST specifically designed the SCPS enhancements to operate with higher efficiency in a wireless/satellite environment.

Background

The directorate's Information Connectivity Branch involvement in SCPS began with configuration and management of the satellite test environment used for initial testing and verification of the protocol software. GST also demonstrated their SkipWare-enhanced devices over the NASA ACTS using the directorate's ACTS earth station located in Rome, New York.

Additional information

To receive more information about this or other activities in the Air Force Research Laboratory, contact TECH CONNECT, AFRL/XPTC, (800) 203-6451 and you will be directed to the appropriate laboratory expert. (02-IF-01)